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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,697	11/28/2006	Hiromitsu Takeda	09792909-6567	1076

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EXAMINER
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DUBNOW, JOSHUA M

ART UNIT	PAPER NUMBER
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2861

MAIL DATE	DELIVERY MODE
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08/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,697	<b>Applicant(s)</b> TAKEDA ET AL.	
	<b>Examiner</b> Joshua M. Dubnow	<b>Art Unit</b> 2861	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/22/2005</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Crosby et al. (U.S. Patent # 6,840,617)** in view of **Ohashi (U.S. Publication # 2002/0089564)**.

Considering **claim 1**, Crosby et al. discloses (Figure 2) a platen plate opposite a liquid ejection surface on the bottom surface of a liquid ejection head (26). The plate supports an ejection object (22) for droplets ejected from the nozzles of the ejection surface. In addition, the plate comprises a plurality of ribs (74, 76) raised from the bottom surface and that extends in the conveying direction of the ejection object. In the regions where the liquid droplets do not land, the surface of the ejection object is supported with the top of the ribs. This situation defines a distance between the object and the ejection surface (Figure 2). In addition, in the regions where the liquid droplets ejected from the nozzles do land, the ribs do not exist (Figure 2). This situation causes the rib surfaces to not contact the bottom surface of the ejection object in these areas (Figure 2, column 4 lines 18-30, 43-55).

Crosby et al. fails to disclose that the ribs are arranged at predetermined intervals in a width wise direction of the ejection object.

However, Ohashi teaches (Figure 3) an inkjet recording apparatus with a platen and platen ribs (11a, 11b) that extend in the conveying direction of the ejection object and are arranged at predetermined intervals in the width direction of the ejection object.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the imaging apparatus with the teaching of Ohashi in order reduce the amount of contact of the platen ribs and the recording medium as well as require less material to reduce the costs of manufacturing.

Considering **claim 2**, and as applied to claim 1 above, Crosby et al. discloses (Figure 5) that the ribs are provided with curved surfaces formed at an upstream end in the conveying direction for introducing the leading end of the ejection object to the rib faces.

Considering **claim 3**, and as applied to claim 1 above, Crosby et al. fails to disclose but Ohashi teaches (Figure 3) that the rib top faces in one row are displaced from the other rib top faces (paragraphs 0078, 0081). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the platen of Crosby et al. with the teaching of Ohashi in order to decrease the size of the ribs while still maintaining an adequate amount of contact and support for the recording medium to convey it reliably.

Considering **claim 4**, and as applied to claim 1 above, Crosby et al. discloses (Figure 5) that within the region where liquid droplets ejected from the nozzles land, there is a liquid absorbing material (82) to absorb the liquid drops.

Considering **claim 5**, and as applied to claim 1 above, Crosby et al. discloses (Figure 5) that the ribs are formed so to continuously extend in the width direction of the ejection object.

Considering **claim 6**, Crosby et al. discloses (Figure 2) a liquid ejection apparatus comprising a platen plate (20) positioned opposite to a liquid ejection surface on the bottom of a liquid ejection head (26). An ejection object (22) is supported with the platen plate while liquid droplets are ejected onto the object as it is conveyed. The platen plate includes a plurality of ribs (74, 76) raised from the bottom surface and that extends in the conveying direction of the ejection object. In the regions where liquid droplets do not land, the surface of the ejection object is supported with the top of the ribs. This situation defines a distance between the object and the ejection surface (Figure 2). In addition, in the regions where the liquid droplets ejected from the nozzles do land, the ribs do not exist (Figure 2). This situation causes the rib surfaces to not contact the bottom surface of the ejection object in these areas (Figure 2, column 4, lines 18-30, 43-55).

Crosby et al. fails to disclose that the ribs are arranged at predetermined intervals in a width wise direction of the ejection object.

However, Ohashi teaches (Figure 3) an inkjet recording apparatus with a platen and platen ribs (11a, 11b) that extend in the conveying direction of the ejection object and are arranged at predetermined intervals in the width direction of the ejection object.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the imaging apparatus with the teaching of Ohashi in order reduce the amount of contact of the platen ribs and the recording medium as well as require less material to reduce the costs of manufacturing.

Regarding **claim 7**, which is similar to claim 2, please note the rejection and the reasons for combining Crosby et al. with Ohashi as set forth above with respect to claim 2.

Regarding **claim 8**, which is similar to claim 3, please note the rejection and the reasons for combining Crosby et al. with Ohashi as set forth above with respect to claim 3.

Regarding **claim 9**, which is similar to claim 4, please note the rejection and the reasons for combining Crosby et al. with Ohashi as set forth above with respect to claim 4.

Regarding **claim 10**, which is similar to claim 5, please note the rejection and the reasons for combining Crosby et al. with Ohashi as set forth above with respect to claim 5.

3. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Crosby et al. (U.S. Patent # 6,840,617)** in view of **Ohashi (U.S. Publication # 2002/0089564)** further in view of **Ujino et al. (JP2001-71480)**.

Considering **claim 11** and **claim 12**, and as applied to claim 6 above, Crosby et al. discloses a liquid ejection apparatus comprising all of the claimed limitations discussed above but fails to disclose a conveying means for conveying the ejection object from a supply side to the liquid ejection head to the discharge side, the conveying means is located in the rear of the platen plate relative to the ejection head, and a route changing means for changing the route of the conveying belt. The language of conveying means and route changing means will be interpreted as an invocation of 35 U.S.C. 112 sixth paragraph.

Ujino et al. teaches (Figure 1) a liquid ejection apparatus with a conveying means having a conveying belt (105) arranged along a predetermined route for conveying the ejection object from a supply side to a discharge side. In the region where liquid is ejected from a liquid ejection head, the conveying belt is located in the rear of the platen plate (Figures 1, 2). In addition, the apparatus further includes rollers (106) that act as route changing means for changing the route of the conveying belt (Figure 2).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Otsuki (U.S. Publication # 2002/0135653), Miyawaki et al. (U.S. Publication # 2002/0047885), Kawaguchi (U.S. Patent # 6,908,168), Taguchi et al. (U.S. Patent # 6,89,421), Uchida (U.S. Patent # 6,719,393), Matsui et al. (U.S. Patent # 6,644,801), Sasaki et al. (JP 2006056047), Kojima (JP 2006188070).

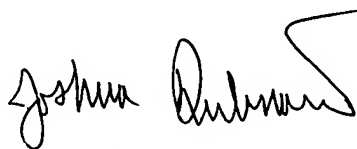
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua M. Dubnow whose telephone number is 571-270-1337. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**MATTHEW LUU**  
SUPERVISORY PATENT EXAMINER



Joshua M Dubnow  
Examiner  
Art Unit 2861

July 27, 2007